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CLAIM AMENDMENTS

1. (currently amended) A method of triacylglyceride production comprising:

increasing production of triacylglycerides in an organism by transforming the organism with an introduced DNA encoding a protein having glycerol-3-phosphate acyltransferase (GPAT) activity, the organism after transforming exhibiting enhanced production of triacylglycerides;

~~growing the organism under conditions such that said glycerol-3-phosphate acyltransferase is expressed prior to harvesting~~ and said organism has higher triacylglyceride content compared to a control;  
and

extracting oil~~harvesting the triacylglycerides~~ from seeds from the organism.

2. (previously presented) The method of claim 1, wherein the organism is a plant.

3. (previously presented) The method of claim 2, wherein the plant is an oilseed bearing plant.

4. (previously presented) The method of claim 2, wherein the plant is of the genus *Brassica*.

5. (previously presented) The method of claim 2, wherein the plant is *Arabidopsis thaliana*.

6. cancelled.

7. cancelled.

8. cancelled.

9. cancelled.

10. cancelled.

11. cancelled.

12. (previously presented) The method of claim 1, wherein the DNA is a DNA having a sequence as recited in SEQ ID NO: 2, or a variant thereof having at least 70% sequence identity to SEQ ID NO: 2.

13. cancelled.

14. cancelled.

15. cancelled.

16. cancelled

17. (currently amended) A method of triacylglyceride production comprising:

transforming an organism with a vector, wherein the vector comprises a DNA encoding a protein comprising SEQ ID NO: 7, or a protein having the same function comprising a sequence having at least 70% homology with SEQ ID NO: 7, the organism after transforming exhibiting enhanced production of triacylglycerides;

~~growing the organism under conditions such that said protein is expressed prior to harvesting~~ and said organism has higher triacylglyceride content compared to a control;

and

extracting oil ~~harvesting the triacylglycerides~~ from seeds of the organism.

18. cancelled.

19. cancelled.

20. cancelled.

21. Cancelled

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25. Cancelled

26. Cancelled.

27. Cancelled..

28. Cancelled

29. cancelled.

30. Cancelled.

31. Cancelled.

32. Cancelled

- 33. Cancelled
- 34. Cancelled.
- 35. Cancelled.
- 36. Cancelled.
- 37. Cancelled
- 38. cancelled.
- 39. Cancelled
- 40. cancelled.
- 41. cancelled.
- 42. cancelled.
- 43. Cancelled
- 44. cancelled.
- 45. cancelled.

46. (previously presented) The method of claim 1, wherein the DNA encodes a protein comprising a sequence that differs from SEQ ID NO: 7 but has at least 70% sequence homology with SEQ ID NO: 7 and the same function as the protein of SEQ ID NO: 7.

47. (previously presented) The method of claim 1, wherein the DNA comprises a sequence encoding a protein comprising SEQ ID NO: 7.

- 48. cancelled.
- 49. cancelled.
- 50. cancelled.
- 51. cancelled.